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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,595	03/25/2004	Joseph M. Ferencz	1926A1	7249

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PPG INDUSTRIES, INC.
Intellectual Property Department
One PPG Place
Pittsburgh, PA 15272

EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,595

Applicant(s)

FERENCZ ET AL.

Examiner

Jeff Wollschlager

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant's amendment to the claims filed August 2, 2006 has been entered. Claims 1, 6, and 9 are currently amended. Claims 1-14 are pending and currently under examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6-9, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Giezen et al. (WO 00/69916; published November 23, 2000).

Regarding claims 1 and 2, Giezen et al. teach a method for producing biopolymer nanoparticles/powder coating compositions (paragraphs [0012-0013]) comprising: A) feeding starting materials comprising a resin/biopolymer and additives (paragraphs [0002-0006; 0013]) and a crosslinking agent (paragraphs [0007-0009]) to an extruder; B) shear mixing the starting materials at ambient temperature in a first portion of the extruder; C) melt mixing the material from step B in a second portion of the extruder so as to achieve a melt mix; and D) cooling the melt mix of step C in a third portion of the extruder (Abstract; paragraph [0014]).

As to claim 6, Giezen et al. reduce the temperature by about 10 °C prior to exiting the extruder (paragraph [0014, 0022]).

As to claim 7, Giezen et al. teach the powder coating/biopolymer nanoparticles are crosslinked/thermoset (paragraphs [0007-0009]).

As to claim 8, Giezen et al. teach the material of step B is melt mixed between about 80-100 °C.

Regarding claim 9, Giezen et al. teach a method for producing biopolymer nanoparticles/powder coating compositions (paragraphs [0012-0013]) wherein starting materials comprising a resin/biopolymer and additives (paragraphs [0002-0006; 0013]) and a crosslinking agent (paragraphs [0007-0009]) are extruded and the extruder is divided into three portions, an initial ambient portion, an intermediate heated portion and a final cooled portion (paragraph [0014]).

As to claim 12, Giezen et al. heat the starting material to a temperature between 60 to 80 °C higher than the initial ambient temperature of 20 °C (paragraph [0014]).

As to claim 13, Giezen et al. melt mix the starting materials for the purpose of producing a final product in a controlled manner (paragraph [0014]). As such, the heating is clearly focused (e.g. directed toward a particular purpose).

Claims 1, 2, 6-9 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sherman et al. (WO 98/17726; published April 30, 1998).

Regarding claims 1 and 2, Sherman et al. teach a method of making polymer mixtures comprising: A) feeding start materials comprising a resin and a crosslinking agent to an extruder; B) shear mixing the start materials at ambient temperature in a first portion of the extruder; C) melt mixing the material from step B in a second portion

Art Unit: 1732

of the extruder so as to achieve a melt mix; and D) cooling the melt mix of step C in a third portion of the extruder (page 3, lines 15-30; page 49, lines 1-12).

As to claim 6, Sherman et al. reduce the temperature by about 20 °C prior to exiting the extruder (page 49, lines 1-12).

As to claim 7, the polymer mixtures may be thermosetting (page 3, lines 15-30).

As to claim 8, Sherman et al. melt the mixture at a temperature of about 150 °C (page 49, lines 1-12).

Regarding claim 9, Sherman et al. teach a method for producing polymer mixtures wherein starting materials comprising a resin and crosslinking agents are extruded and the extruder is divided into three portions, an initial ambient portion, an intermediate heated portion and a final cooled portion (page 3, lines 15-30; page 49, lines 1-12).

As to claim 13, Sherman et al. melt mix the starting materials for the purpose of producing a final product in a controlled manner (page 49, lines 1-12). As such, the heating is clearly focused (e.g. directed toward a particular purpose).

Claims 1, 2, 6, 7, 9 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams et al. (U.S. Patent 5,844,071; issued December 1, 1998).

Regarding claims 1 and 2, Williams et al. teach a method of manufacturing an coating composition comprising: A) feeding start materials comprising a resin and a crosslinking agent to an extruder; B) shear mixing the start materials at ambient temperature in a first portion of the extruder; C) melt mixing the material from step B in a

Art Unit: 1732

second portion of the extruder so as to achieve a melt mix; and D) cooling the melt mix of step C in a third portion of the extruder (Abstract; col. 6, lines 8-25; col. 7, lines 12-30).

As to claim 6, Williams et al. cool the melt mix by about 20-25 °C prior to exiting the extruder (col. 7, lines 21-28).

As to claim 7, the composition produced by Williams et al. is a thermosetting coating.

Regarding claim 9, Williams et al. teach a method for producing a coating composition wherein starting materials comprising a resin and crosslinking agents are extruded and the extruder is divided into three portions, an initial ambient portion, an intermediate heated portion and a final cooled portion (Abstract; col. 7, lines 12-30).

As to claim 13, Williams et al. melt mix the starting materials for the purpose of producing a final product in a controlled manner (Abstract; col. 7, lines 12-30). As such, the heating is clearly focused (e.g. directed toward a particular purpose).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 1732

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giezen et al. (WO 00/69916; published November 23, 2000), as applied to claims 1, 2, 6-9, 12 and 13 above.

As to claims 3-5, 10 and 11 Giezen et al. teach the method of claims 1 and 9 as discussed in the 102(b) rejection above. Giezen et al. do not explicitly disclose the specifically recited lengths of the portions of the extruder.

However, one having ordinary skill in the extrusion art would recognize that the employed length parameters of an extruder are dependent on the materials being processed, the required production rates, the rating of the electric motor, and the level of fouling and wear in the extruder, for example. One of ordinary skill would have to take all these variables into account when determining the specific lengths of portions of the extruder. As such, the lengths of the different portions of the extruder are a recognized result effective control variable that would have been readily optimized, as is routinely done in the art.

Claims 3-5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman et al. (WO 98/17726; published April 30, 1998) as applied to claims 1, 2, 6-9 and 13 above.

As to claims 3-5, 10 and 11 Sherman et al. teach the method of claims 1 and 9 as discussed in the 102(b) rejection above. Sherman et al. do not explicitly disclose the specifically recited lengths of the portions of the extruder.

However, one having ordinary skill in the extrusion art would recognize that the employed length parameters of an extruder are dependent on the materials being processed, the required production rates, the rating of the electric motor, and the level of fouling and wear in the extruder, for example. One of ordinary skill would have to take all these variables into account when determining the specific lengths of portions of the extruder. As such, the lengths of the different portions of the extruder are a recognized result effective control variable that would have been readily optimized, as is routinely done in the art.

Claims 3-5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al. (U.S. Patent 5,844,071; issued December 1, 1998) as applied to claims 1, 2, 6, 7, 9 and 13 above.

As to claims 3-5, 10 and 11 Williams et al. teach the method of claims 1 and 9 as discussed in the 102(b) rejection above. Williams et al. do not explicitly disclose the specifically recited lengths of the portions of the extruder.

Art Unit: 1732

However, one having ordinary skill in the extrusion art would recognize that the employed length parameters of an extruder are dependent on the materials being processed, the required production rates, the rating of the electric motor, and the level of fouling and wear in the extruder, for example. One of ordinary skill would have to take all these variables into account when determining the specific lengths of portions of the extruder. As such, the lengths of the different portions of the extruder are a recognized result effective control variable that would have been readily optimized, as is routinely done in the art.

Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman et al. (WO 98/17726; published April 30, 1998) as applied to claims 1, 2, 6-9 and 13 above.

As to claims 12 and 14, Sherman et al. teach the methods of claim 9 and 13 as discussed in the 102(b) rejection above and further exemplify heating the material to a temperature of 180 °C. However, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to optimize the specific extrusion temperature as required to produce the desired product from the different starting materials employed by Sherman et al. Further, the period of time a melt mix is heated to a particular temperature in a given portion of an extruder is a function of the residence time of the material in that portion, the material being processed (e.g. heat capacity of the material), the dimensions of the screw, the degradation properties of the material, and the production rate. Therefore, the time a melt mix is heated to a

Art Unit: 1732

particular temperature in a portion of the extruder is a recognized result effective control variable that would have been readily optimized as is routinely practiced in the art.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giezen et al, (WO 00/69916; published November 23, 2000) as applied to claims 1, 2, 6-9, 12 and 13 above.

As to claim 14, Giezen et al. teach the method of claim 13 as discussed in the 102(b) rejection above. Giezen et al. further heat the material within the range of 70 °C to 150 °C. Giezen et al. do not expressly state the length of time the shear mix is heated.

However, the period of time a melt mix is heated to a particular temperature in a given portion of an extruder is a function of the residence time of the material in that portion, the material being processed (e.g. heat capacity of the material), the dimensions of the screw, the degradation properties of the material, and the production rate. Therefore, the time a melt mix is heated to a particular temperature in a portion of the extruder is a recognized result effective control variable that would have been readily optimized as is routinely practiced in the art.

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection. However, the examiner notes that portions of the arguments are directed to the powder coatings recited in the preamble of

Art Unit: 1732

the claim. In response to applicant's arguments, the recitation powder coating has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

All claims are rejected.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Plastics Extrusion Technology by Allan L. Griff, copyright 1962, pages 318-319, teaches that extruders typically have three zones: a feed zone, comprising 0-75% of the length of the extruder; a compression zone, comprising 5-100% of the length of the extruder, and a metering zone, comprising 20-50% of the length of the extruder. These lengths are controlled as a function of the material being processed as well as other criteria.

Dictionary.com: Defines the word "Focused" as "To direct toward a particular point or purpose".

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP.

Art Unit: 1732

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager
Examiner
Art Unit 1732

October 4, 2006


CHRISTINA JOHNSON
PRIMARY EXAMINER

10/12/06